Laparoscopic radical hysterectomy: A safe and effective surgical treatment for early-stage cervical cancer

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ABSTRACT

Background and aims

Laparoscopic techniques to treat early stage cervical cancer have been recently begun by gynecologic oncologist. The aim of our study was to retrospectively evaluate the oncological outcomes of laparoscopic radical hysterectomy for early stage cervical cancer.

Methods

A retrospective review of medical records was performed to identify patients who underwent laparoscopic radical hysterectomy. Data was obtained from the medical record department and analyzed.

Result

Laparoscopic radical hysterectomy was done in nine patients in a period of last 1.5 yrs. The mean age was 50.2 years and BMI was 24.29 respectively. Most of the cases (5) of were stage I followed by stage II in four cases. Five patients had attained menopause while four were having normal menstrual cycle. Average blood loss during surgery was 200 ml with mean surgery time of 3.8 hrs. Most of the patients were discharged in 5 days however one had longest hospital stay of 10 days. Histopathological report of four patients showed adenocarcinoma and five had squamous cell carcinoma. None of the patients had positive lymph node. One patient had right iliac vein injury during surgery.

Conclusions

Laparoscopic radical hysterectomy provides excellent oncologic outcome to patients with early stage cervical cancer.

Keywords: **Laparoscopy, ca cervix, radial hysterectomy**

Introduction

Cervical cancer is the fourth most commonly diagnosed cancer and the leading cause of cancer death among women in the world[1]. Radical hysterectomy with pelvic lymphadenectomy is the suggested treatment for cervical cancer FIGO stages IA2 to 1B1[2]. Initially radical hysterectomy with pelvic lymphadenectomy did not gain much popularity as it was associated with high morbidity and mortality. Radiation therapy was the treatment

of choice. However, later due to the advent of antibiotics and improved anesthesia radical hysterectomy regained popularity for early stage cervical cancer[3].

In the 1990s, gynecologic oncologists began to use laparoscopy to perform hysterectomies and lymph node dissection in women with endometrial cancer[4]. Complication rate, hospital stay, and cost of treatment decreased significantly. The minimally invasive approach improved patients' quality of life and allowed women to return to baseline function earlier[4].

Here we aimed to see the oncological outcome of laparoscopic radical hysterectomy in early-stage cervical cancer.

Materials and methods

Medical files of all patients who had undergone Laparoscopic Radical Hysterectomy (LRH) were collected from Medical Record Department. The initial diagnosis of cervical cancer was made by histologically confirmed biopsy prior to surgery. The patients' stage was based on clinical staging set by FIGO[5] .

Data were then collected which included demographic age, BMI, menstrual pattern, histological type, and stage. We also collected operative outcomes including operating time, blood loss, blood transfusion, and other operative complications as well as post-operative outcomes including wound infections, length of hospital stay. All data was entered on MS Excel and analysis was done.

Results

A total of 31 oncologic patients were operated on at our institution in a duration of 1.5 yrs (2019 January to 2020 June). Fifteen cases of carcinoma (Ca) ovary, six cases of Ca endometrium, one case of Ca fallopian tube, and nine of Ca cervix.

Of the nine patients with cervical cancer who underwent a laparoscopic radical hysterectomy, the mean age was 50.2 yrs and BMI was 24.29. The mean weight of patients in this study was 49 kg with one patient weighing as high as 100 kg. Five cases were in stage I followed by stage II in 4. Five patients had attained menopause while four were having a normal menstrual cycle. Five patients had the histologic type of squamous cell carcinoma while the other four had Adenocarcinoma.

Table 1. Demographic features

Mean Age (years)	50.2
Mean Weight (kg)	49
Mean BMI	24.29
Menstruation	
Normal	4
Menopause	5
Stage	
1A1	0
1A2	1
1B1	1
1B2	3
IIB2	4
Histology	
Squamous	5
Adenocarcinoma	4

Table 2. Intraoperative findings

Surgery time (hrs)	3.8
Estimated blood loss(ml)	200
Vascular injury	1
Bowel injury	0
Ureteral injury	0
Blood transfusion	0

Table 3. Postoperative outcome

Hospital stay (days)	5.5
Morbidities	
Fever	1
UTI	0
Pneumonia	0
Non infectious	
DVT	1
Urinoma	0
Prolonged ileus	0
Others	0

Average blood loss during surgery was 200 ml with a mean surgery time of 3.8 hrs. None of the patients had bowel or ureteral injury while one patient had external iliac vein injury during surgery. None of the patients required blood transfusion.

Most of the patients were discharged in 5 days however one had the longest hospital stay of 10 days. One patient had a fever during the post-operative period and one had Deep Vein Thrombosis. None of the patients had positive lymph nodes.

Discussion

Minimally invasive surgeries have become more popular for gynecological surgeries as operative blood loss is minimal, hospital stay is short and recovery is faster. This study looked at a series of LRH with pelvic lymphadenectomy and its oncologic outcome.

The mean age of our study subjects was 50.2 years which was almost similar to the study done by Xuchen et al.[6] whereas Frumovitz et al. had a mean age of 40.8 much lesser than many other studies[4]. The average weight of patients in our study was 49 kg having the highest of 100 kg while another study[4] had a mean weight of 74.9 kg.

A study by Puntambekar et al.[7] supports the fact that laparoscopic surgery facilitates nerve-sparing surgical technique which offers better functional post-operative recovery of pelvic organs. We found that the mean operating time was 228 minutes (3.8 hours) which was almost similar to the study done by Taylor et al[3]. Slightly longer surgical time on average has been noted with LRH[4, 8]. This may be due to newer techniques and a steeper learning curve. The blood loss with laparoscopic surgery tends to be less. We had an average blood loss of 200 ml. The trend is similar to what has been reported before[3,4,9]. Hwang et al.[10] reported a higher rate of urinary tract injuries with LRH. We did not encounter any urinary tract injuries. We had only a few operative complications which also supports previous findings that laparoscopy is a safe alternative. The shorter length of stay after laparoscopy had been reported previously and is again confirmed by our study[3,4,9].

In a study done by Xuchen et al.[11], Kim et al.[12], and Paik et al.[13] they found inferior disease-free survival in the laparoscopic group. Melamed et al.[14] reported that minimally invasive surgery was associated with a higher risk of death than open surgery. Similarly, Cusimano et al.[15] and Uppal et al.[16] reported that minimally invasive surgery was associated with a higher rate of recurrence. Our study does not support any of the above findings.

Lastly, we could only follow up with these patients for the short time period. But we did not find any cases of recurrence or death.

Conclusions

Minimally invasive surgery brings out excellent results in surgery in terms of blood loss, hospital stay, less wound infection, and early recovery. So laparoscopic hysterectomy should be considered in early-stage cervical cancer.

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